

Table 2-8: Impacts Summary

Alternative/ Impact Topic	Alternative A (No Action)	Alternative B	Alternative C	Alternative D (Proposed Action)	Alternative E
Physical Resources (soils, air and water quality)	Most impacts would be concentrated in high-use areas and at backcountry access points along the park road, which currently are small compared to the total area of the park. Lack of planning for recreational activities, however, would result in more frequent, intense, and widespread disturbances to soil, water quality, and air quality in the future that potentially would cause moderate levels of impact on physical resources in localized areas and moderate impacts overall.	Impacts to soil would be minor because high-use areas along the park road and Kantishna (where impacts would be greatest) are relatively small in proportion to the total area of the park. Throughout the rest of the park, visitor use levels would be low due to the limited permit system and management area prescriptions, so impacts to soils would be negligible because of the low frequency and extent of the recreational activities. Impacts to water and air quality would be negligible throughout the park because of low use levels.	Impacts on soils would be minor (with few moderate impacts at high use locations) because the level of impacts from hiking and from snowmobile use would be very limited. The emphasis on dispersed recreation would result in negligible to minor overall impacts on air and water quality.	Soil impacts would be minor because impacts from hiking and from snowmobiles would be limited in extent. In high use areas, such as snowmobile corridors and hiking access points, impacts to soils would be minimal to moderate. Impacts to water and air quality in most of the park would be negligible because of low and dispersed use.	Increased motorized access, construction of new facilities, expanded hiking and overnight use, additional trails and campsites on the south side, and generally higher levels of recreational use would contribute to increased surface disturbances, especially near common access points and at campsites. Impacts to soils would be moderate in localized areas and minor to moderate overall. Impacts to air and water quality would be minor, with moderate impacts occurring locally.
Vegetation and Wetlands	Moderate to major impacts to vegetation and wetlands would result from expanded recreational activities throughout the park and preserve, especially from the introduction of invasive species from livestock use (in the southwest preserve), damage to vegetation from snowmobiles and trampling of vegetation by hikers at popular visitor destinations such as the Broad Pass and upper Tokositna areas. The impact would be moderate to major because damage to vegetation from hiking, camping, snowmobile use, dog mushing, and mountain biking would result in long-term changes (that may be either subtle or intense) to vegetation or wetlands.	Impacts would be negligible. The limited permit system would reduce or cap visitor numbers across the entire park. Areas that would otherwise be heavily used (such as from snowmobile use in the Broad Pass and Tokositna areas) would receive lower levels of use, so impacts would be significantly reduced as compared to the no-action alternative.	There would be negligible to minor negative impacts on vegetation and wetlands. Disturbance would occur at access points (such as social trail formation in the Old Park from hikers) and along snowmobile corridors, but the affected area would be small when compared to the rest of the park. Mountain bikes would only be used on established routes, and the limited permit system would cap all overnight uses throughout the park.	Impacts to vegetation and wetlands would be minor to moderate. Disturbance associated with vegetation impacts would be confined to specific areas (such as corridors for snowmobile use and access points for hiking), and active management would be used to reduce potential impacts to vegetation from some activities (such as snowmobile use). Mountain bikes would only be used on established routes, and the limited permit system would cap all overnight uses throughout the park.	There would be moderate negative impacts to vegetation and wetlands (with the most severe impacts occurring at access points and along snowmobile corridors) due to increases in both winter and summer recreational activities across many parts of the park and preserve. Moderate impacts from hiking would occur throughout the park, with social trail formation occurring near access points and in areas zoned as Backcountry, and with the construction of new trails to provide for expanded visitor opportunities. Snowmobile use would be widespread, with the greatest impacts occurring throughout large corridors. At least six new trails would be constructed, with a moderate impact on wetlands. Because long-term impacts would occur in many local places, overall impacts would be moderate.

Alternative/ Impact Topic	Alternative A (No Action)	Alternative B	Alternative C	Alternative D (Proposed Action)	Alternative E
Wildlife and Fish	Wildlife would be negatively affected in some areas of the park during summer from noise generated by aircraft operations and by human activities in the park such as hiking and camping. During winter, wildlife would be affected primarily by snowmobile use and to a much lesser extent by nonmotorized activities. These impacts would affect wildlife in areas such as under flight corridors between Healy, Talkeetna, and Mt. McKinley; at landing sites; and at access points and routes and areas heavily used by snowmobiles on the south side. The overall level of impact would be moderate. Other activities in the park would have negligible to minor impacts on fish and wildlife populations.	The impacts to wildlife and fish populations and habitats would generally be negligible because of limits on numbers and types of backcountry uses. Minor impacts are possible from activities such as increased bicycle use, but even then would be limited to short-term effects that would be very localized in scope.	The impacts to wildlife and fish populations and habitats would generally be negligible to minor because of limits on types and levels of backcountry uses. Minor impacts are possible from activities such as snowmobile use in the park additions and preserve, and hiking and camping. However, these impacts would generally be limited to short-term effects that would affect a few specific places.	The impacts to wildlife and fish populations and habitats would be minor for most activities. Impacts would generally be limited to short-term effects that, although affecting several different places, would not be widespread.	The impacts to wildlife and fish populations and habitats would be minor to moderate for most activities, with most impacts resulting from widespread snowmobile use in the park additions and preserve. Major impacts to wildlife species and wildlife habitat are likely as a result of cumulative impacts.
Natural Soundscape	There would be major adverse impacts to the natural soundscape from the noise of airplane overflights and landings that would affect much of the park and preserve. There would be moderate adverse impacts on the natural soundscape from snowmobile use, other visitor activities that require access by air taxi, and from administrative activity that uses aircraft for access. There would be a moderate impact from administrative actions, including research. Minor impacts would result from any increase in use of motorboats in the park. Under this alternative the soundscape resource would be impaired because in	The natural soundscape would receive a major benefit from the reduction in air traffic related to flightseeing and a moderate benefit from the reduction in snowmobile use and changes in administrative activity, counterbalanced by a minor adverse impact from increases in air taxi traffic. Overall there would be a moderate to major benefit to the natural soundscape because the park and preserve would have fewer noise intrusions under this alternative, and visitors would have a greater chance to experience an undisturbed natural soundscape.	Most visitor activities would have negligible impacts; however, there would be moderate benefits to the natural soundscape during summer months from reduced administrative use of noise-making equipment and a reduction in the rate of occurrence and percent time audible of aircraft noise. During late winter months there would be minor adverse impacts from snowmobile noise during the lifetime of the plan. In almost all of the park and preserve, winter and summer visitors would be able to appreciate undisturbed natural sounds for the vast majority of their visit.	The allowed increases in overnight camping (and thus air taxis), snowmobile use, motorboat access, and administrative and research activity would likely result in moderate adverse impacts on the natural soundscape overall. There would be moderate beneficial impacts from better management of aircraft noise.	Actions under this alternative generally result in adverse impacts to the natural soundscape. Allowable levels of overnight camping and mountaineering would create minor adverse impacts. Motorboat usage, facility construction and management, administrative activities, and research would all cause moderate adverse impacts. Impacts from snowmobiles would be moderate to major. Meanwhile the actions for managing aircraft would result in no net impact compared to current conditions. Overall there would be moderate to major adverse impacts on natural soundscape.

Alternative/ Impact Topic	Alternative A (No Action)	Alternative B	Alternative C	Alternative D (Proposed Action)	Alternative E
	many places in the park and preserve aircraft noise would be audible so often that it would effectively remove the opportunity for visitors on the ground to appreciate a natural soundscape.				
Wilderness	There would be major adverse impacts to the wilderness character. Impacts of varying severity are already occurring from aircraft overflights and landings, snowmobile use, guided hiking, and climbing activities on Mount McKinley. These impacts would worsen if left unattended. If no management action occurs there may be future impacts from the use of motorboats, pack animals, bicycles, and expansion of hiking, camping, and climbing in parts of the park additions. Most of the anticipated impacts relate to deterioration of natural sound conditions, the presence of reminders of human civilization, such as motorized and mechanized equipment, encounters with other people and large groups of people, and signs of human presence, such as social trails, campsites, and human waste. These impacts are often modest, but for some activities – particularly aircraft use – moderate to major impacts could affect large portions of the park and impair the park's wilderness character so that future generations would not be able to find the wilderness experience envisioned in ANILCA and the Wilderness Act.	The wilderness character of the backcountry would receive a moderate benefit under this alternative because of elimination of some noise and signs of human presence in the form of aircraft, snowmobiles, and administrative presence, and because of the removal of human waste from Mount McKinley. The reduction in guided hiking around Wonder Lake and the temporal dispersing of mountaineering parties on Mount McKinley would have minor beneficial impacts on wilderness character because there would be fewer signs of human presence in these areas.	The impact to the wilderness character of the park additions and preserve would be mixed under this alternative. There would be an overall minor to moderate benefit for the designated Wilderness because the management of aircraft, the exclusion of motorboats, and the more careful management of research and administrative presence would lead to fewer reminders of civilization in the backcountry of the Old Park Special Resource Area. However, there would be minor adverse impacts primarily in the park additions and preserve from small increases in noise, signs of human presence, and reminders of civilization related to allowable increases in overnight camping, snowmobile use, motorboat use, and route marking.	Actions in this alternative would have some minor benefits to wilderness character at Denali, primarily through management of aircraft overflights to reduce noise and the reduction of waste, noise, and other signs of human presence in mountaineering areas. Overall there would be minor to moderate adverse impacts from increasing noise, reminders of civilization, and signs of human presence from activities related to increased overnight camping, snowmobile and motorboat use, and the construction of new backcountry facilities and the maintenance of those facilities.	Actions in this alternative would primarily have moderate to major adverse impacts on the wilderness character of the Denali backcountry. Increases in the level of activity and particularly motorized activity would bring with it increases in noise from motors and reminders of civilization, such as mechanized devices, along with declines in opportunities for isolation and to see a landscape that shows no sign of human presence. Actions related to overnight camping, mountaineering, hiking, and facilities development would also cause minor to moderate impacts on the wilderness character of the park and preserve. The impacts would be parkwide affecting both designated and suitable wilderness, although changes in some activities (such as snowmobile riding) would apply only to suitable wilderness in the park additions and preserve, where the most severe impacts would generally be noticed.

Alternative/ Impact Topic	Alternative A (No Action)	Alternative B	Alternative C	Alternative D (Proposed Action)	Alternative E
Cultural Resources	Impacts to cultural resources from the no-action alternative would be moderate, resulting from larger numbers of visitors in areas where cultural resources exist.	Impacts to cultural resources under this alternative would be negligible because limits on activities would be phased in and because additional information and education would be provided. This would be the case throughout the time in which the plan is in effect.	Actions would result in negligible adverse impacts to cultural resources in some cases because limits on activities would be phased in. Actions would result in minor benefits in other cases because additional information and education would be provided. This would be the case throughout the life of the plan.	Actions would result in negligible to minor adverse impacts to cultural resources in some cases because limits on activities would be phased in. Minor benefits would result in other cases because additional information and education would be provided. This would be the case throughout the life of the plan.	Impacts would be minor because some actions, such as widespread snowmobile access and significantly increasing day use hiking would result in a substantial increase in the number of visitors to areas in which cultural resources exist. Where additional visitor use would occur, improved information and education about resource protection, including cultural resources, would be provided; this would help reduce the risk of damage to cultural resources. In those infrequent cases where damage did occur, it would result in an irretrievable loss of some cultural resources, some of which are unique to Denali and to Alaska, but the overall risk of this outcome is believed to be low.
Socioeconomics	Backcountry use would likely increase at a faster rate than overall visitation and would account for some of the growth in income for existing businesses over the next several years. There would also be more opportunities for new businesses to be initiated as a result of anticipated minor to moderate increases in recreational use levels. Alternative A would contribute to increased employment opportunities and income levels, commensurate with the levels of increases of recreational use, for concessioners and other recreation-oriented businesses near Denali National Park and Preserve. Increasing backcountry use	Despite some potential reductions in recreational use at some locations within the park, alternative B would contribute slightly to increases in income for most existing businesses throughout the life of the plan. The overall number of backcountry users would increase, although it would be a smaller percentage of total park visitation. There would be some potential opportunities for new businesses to be initiated as a result of anticipated minor increases in recreational use levels in the park. These changes would also lead to increased employment opportunities and income levels, commensurate with the levels of increases of backcountry recreational	Because of steady increases in a wide variety of recreational uses throughout the park and preserve, alternative C would result in minor increases in income for many existing businesses over the next several years. There would be potential opportunities for new businesses to be initiated as a result of anticipated increases in recreational use levels in the park. These changes would also lead to increased employment opportunities and income levels, commensurate with the levels of increases of recreational use, for concessioners and other recreation-oriented businesses near Denali National Park and Preserve.	Because of steady increases in a wide variety of recreational uses throughout the park and preserve, alternative D would result in moderate increases in income for many existing businesses throughout the life of the plan. There would be increasing opportunities for new businesses to be initiated as a result of anticipated growth in recreational use levels in the park. These changes would also lead to increased employment opportunities and income levels, commensurate with the levels of increases of recreational use, for concessioners and other recreation-oriented businesses near Denali	Because of continued increases in a wide variety of recreational uses throughout the park and preserve, alternative E would result in moderate increases in income for many existing businesses throughout the life of the plan and major increases in some cases. There would be numerous opportunities for starting new businesses as a result of anticipated growth in recreational use levels in the park. These changes would also lead to increased employment opportunities and income levels, commensurate with the levels of increased recreational use, for concessioners and other recreation-oriented businesses near Denali

Alternative/ Impact Topic	Alternative A (No Action)	Alternative B	Alternative C	Alternative D (Proposed Action)	Alternative E
	<p>under alternative A would also contribute to the overall increase in economic activity, a slight increase in population, the need for additional housing and public services, and a moderate reduction in the current rural quality of life in communities near the park and preserve.</p> <p>Impacts to existence values would increase eventually, while use values would tend to increase over the next several years with some reduction likely in the long term. Impacts to the value of Denali National Park and Preserve for ecosystem services would be minor initially and increase to moderate over the next several years as higher levels of use occur at popular destinations.</p>	<p>use, for concessioners and other recreation-oriented businesses near Denali National Park and Preserve. The contributions of alternative B to increased economic activity in the park vicinity would result in negligible increases in population and the need for additional housing and public services. The existing rural quality of life in communities near the park and preserve could be expected to continue.</p> <p>Existence values would be protected and could increase eventually, as would use values for most activities. A moderate increase in the value of Denali National Park and Preserve for ecosystem services could be expected throughout the life of the plan.</p>	<p>The increase in economic activity would result in minor increases in population and the need for additional housing and public services. The existing rural quality of life in communities near the park and preserve could be expected to continue.</p>	<p>National Park and Preserve. The increase in economic activity would result in minor increases in population and the need for additional housing and public services. Minor impacts to the rural quality of life in communities near the park and preserve could be expected over the life span of the plan.</p>	<p>National Park and Preserve. The increase in economic activity would result in moderate increases in population and the need for additional housing and public services. Moderate impacts to the rural quality of life in communities near the park and preserve could be expected for the life of the plan.</p>
Recreational Opportunities and Visitor Experience	<p>Visitor use patterns would be established on a first-come first served basis. This would result in adverse impacts to user groups who arrive later into an area. Overall, there would be major adverse impacts on visitor experience and moderate adverse impacts on visitor safety and the availability of diverse regional recreational opportunities.</p>	<p>The backcountry would become more specialized in providing wilderness-dependent recreational activities, especially for non-motorized users. While this management framework would not allow the full breadth of outdoor recreation activities in the park, the focus on wilderness-dependent recreation would enhance the diversity of recreational opportunities in the region, benefit the user experience especially for non-motorized users, and improve visitor safety throughout the park additions and preserve. Non-motorized users would receive moderate benefits overall while those relying</p>	<p>There would be minor to moderate positive impacts on visitor experience and opportunity under this alternative. The experience of wilderness users would improve from the elimination of some aircraft noise and human waste. Safety would improve through better education for visitors in the park additions. Wilderness-dependent recreational opportunities for visitors using both motorized and non-motorized means of access would be enhanced.</p>	<p>There would be minor to moderate positive impacts on visitor experience and opportunity under this alternative. The experience of wilderness users would improve from the elimination of some aircraft noise and human waste. Safety would improve through better education for visitors in the park additions. Wilderness-dependent recreational opportunities for visitors using both motorized and non-motorized means of access would be enhanced.</p>	<p>There would be major positive impacts on visitor experience and opportunity for visitors using motorized means for access to and use of the backcountry because new facilities and management actions would provide for greater use. There would be minor adverse impacts to non-motorized users, including those who access wilderness recreation by motorized means, because much of the park additions and preserve would be affected by widespread motorized use over the long term. Safety would improve through better education and information for visitors in the park additions, but there would not be</p>

Alternative/ Impact Topic	Alternative A (No Action)	Alternative B	Alternative C	Alternative D (Proposed Action)	Alternative E
		solely on motorized access would be adversely affected at a moderate level over the life of the plan.			improved safety for backcountry users in congested areas, especially at popular airplane landing destinations.
Park Operations and Management	Overall impacts include increased search and rescue costs and problems resulting from the lack of adequate resource and visitor information. Without a comprehensive backcountry management plan, these impacts could be expected to increase. The no-action alternative would therefore result in major negative impacts to park operations and management in the 10-15 years that the backcountry management plan is expected to be in effect.	There would be some requirements for additional staff, but most proposals could be implemented by reassigning existing staff and changing management emphasis or priorities during the first 5 years of plan implementation. Although moderate impacts to park operations and management would be realized in some areas, other actions include mitigation and even beneficial effects that would occur throughout the life of the plan. The overall impacts to park management under actions from alternative B would be negligible.	While there would need to be increases in park staff and funding to manage greater use and additional facilities, proactive management would negate the need for a reactive (and thus, a more costly and effort-intensive) approach to management. Implementing actions under alternative C would cause moderate impacts to park operations and management in some areas during 5-10 years of plan implementation, but other actions include mitigation and even beneficial effects that would occur throughout the life of the plan. Therefore, overall impacts to park management would be moderate.	While there would need to be increases in park staff and funding to manage increased use and additional facilities, proactive management would negate the need for a reactive (and thus, a more costly and effort-intensive) approach to management. Moderate impacts to park operations and management would be realized in several areas during 5-10 years of plan implementation. Other actions would include mitigation and even beneficial effects that would occur throughout the life of the plan. Because of this balancing effect and the fact that moderate impacts would generally be reduced once the plan was implemented fully, overall impacts to park management would be moderate.	Implementing alternative E would require a substantial increase in staffing to provide for a major increase in visitor use and visitor services while also preventing impairment of park resources and values. In some cases, proactive management would negate the need for a reactive (and thus, a more costly and effort-intensive) approach to management. Moderate to major impacts would be realized in many areas during the 5-10 years of plan implementation and throughout the life of the plan. Other actions would include mitigation and even beneficial effects that would occur throughout the life of the plan. Despite the balancing effect and the fact that some impacts would be reduced once the plan was implemented fully, other major impacts would persist throughout the life of the plan as described above.